

# Novel Educational Training Program for Community Pharmacists

Abilio C. de Almeida Neto and Shalom I. Benrimoj

*Faculty of Pharmacy, University of Sydney, Sydney NSW 2006 Australia*

David J. Kavanagh

*Department of Psychiatry, University of Queensland, K Floor, Mental Health Centre, Herston Qld 4029, Australia*

Robert A. Boakes

*Department of Psychology, University of Sydney, Sydney NSW 2006 Australia*

There is little evidence that workshops alone have a lasting impact on the day-to-day practice of participants. The current paper examined a strategy to increase generalization and maintenance of skills in the natural environment using pseudo-patients and immediate performance feedback to reinforce skills acquisition. A random half of pharmacies (N=30) took part in workshop training aimed at optimizing consumers' use of nonprescription analgesic products. Pharmacies in the training group also received performance feedback on their adherence to the recommended protocol. Feedback occurred immediately after a pseudo-patient visit in which confederates posed as purchasers of analgesics, and combined positive and corrective elements. Trained pharmacists were significantly more accurate at identifying people who misused the medication ( $P < 0.001$ ). The trained pharmacists were more likely than controls to use open-ended questions ( $P < 0.001$ ), assess readiness to change problematic use ( $P < 0.001$ ), and to deliver a brief intervention that was tailored to the person's commitment to alter his/her usage ( $P < 0.001$ ). Participants responded to the feedback positively. Results were consistent with the hypothesis that when workshop is combined with on-site performance feedback, it enhances practitioners' adherence to protocols in the natural setting.

## INTRODUCTION

Pseudo-patients studies are those in which a patient enters the health setting, not to seek treatment, but to observe and/or test the health care process. In previous pseudo-patient studies, the focus has been primarily on assessment of the practitioners' skills. The current paper differs from these studies as pseudo-patient methodology is used in a randomized trial as part of an educational program.

Direct observations have a number of strengths as assessments of practitioner behavior. They are conducted in the naturalistic environment, rather than in artificial testing settings (such as role-played assessments in a workshop context). They focus on the key behaviors to be tested, rather than on proxy measures such as file records of interventions that are made by the practitioner. When the practitioner is not aware that the person is not a real patient, the method also minimizes the risk of the assessment being reactive (as can occur when an observer is present or the interview is being taped)(1). However, the issue often induces some anxiety or resentment among practitioners. Such resentment is particularly prone to occur if the observation is very critical or was undertaken without prior consent. It is felt that pseudo-patient research often results in very critical reports of practitioners' behavior.

Pseudo-patient studies have also been conducted to evaluate training on pharmacy-based intervention(2) as self-reported rates of intervention delivery would have been likely to be

inflated in relation to pseudo-patient observations. However, if pseudo-patient assessments were more fully integrated in the training, we might be able not only to derive an accurate assessment of changes in clinical practice, but we might be able to use feedback from the assessments as a basis for further skills acquisition. Some pseudo-patient studies in pharmacies have provided pharmacists with feedback from the assessments, but these typically have been delayed(3). We know that performance feedback is most effective when it is provided immediately after the performance(4). The present study attempted to incorporate the assessment strengths of the pseudo-patient methodology, but used it in a collaborative manner to promote further skill development.

## The Use of Pseudo-Patients as an Educational Tool

Continuing education of health professionals tends to rely on workshop training as a primary means of skill development. However, there is substantial evidence that workshops often have little lasting impact on the day-to-day practice of participants. The data cover areas as diverse as training general practitioners to provide advice to stop smoking(5,6) and on rates of reminders about Pap smears(6), training mental health staff to deliver family intervention(7) and training health workers to develop and record behavioral patient goals(8).

*Am. J. Pharm. Educ.*, 64, 302-307(2000); received 11/8/99, accepted 6/16/00.

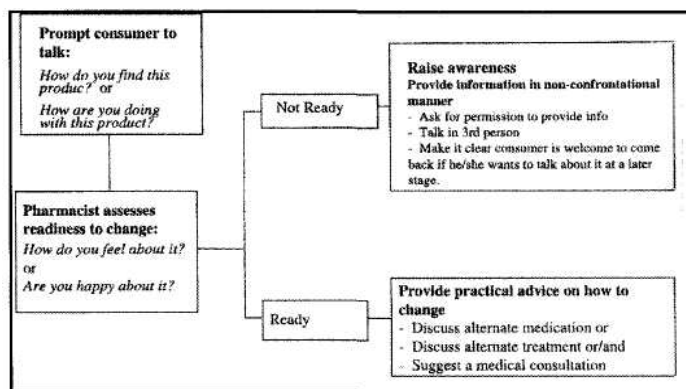


Fig. 1. Intervention strategies for inappropriate users.

There are several possible reasons for this failure to generalize skills. In some cases, participants may not be committed to skill acquisition when they attend the workshop; the procedure that is taught may not be suitable for implementation, or there may be insufficient incentives for implementation when participants attempt it in the field(7). Alternatively, the workshop may not include sufficient opportunity for skills practice with corrective feedback, or the skills practice may not be in a sufficiently similar context. Preliminary data collected by the authors reinforced the notion that a keen group of participants and a practical procedure were not enough to ensure continued application of the skills in the field(9). In the current paper, we examined a strategy to increase skills and incentives in the natural environment using pseudo-patients. A pilot study conducted by the authors involved developing and testing the viability of an intervention for inappropriate analgesic use that could be used in a retail context(10). In Australia, compound analgesics containing paracetamol, codeine and doxylamine are available to the public from a pharmacist without a medical prescription. However, pharmacists are legally required to deliver personally these analgesic products ("pharmacist-only") to the consumer. In the pilot study, the authors predicted that an approach that provided immediate feedback to pharmacists on the use of the intervention with their own consumers of analgesics would maximize generalization to the natural setting and maintenance of the skills(10). In this previous study three hundred and twenty-one pseudo-patient visits were used to assess, coach and motivate participants to deliver the pharmacy-based intervention. Baseline data collection and training were conducted over a period of 8 weeks. Results showed that compared with controls, the trained pharmacists were significantly more likely to identify inappropriate analgesic use ( $P < .01$ ) and were more likely to discuss the use of alternatives ( $P < 0.02$ ). The pseudo-patient methodology was successful in transferring training to the natural environment. Fourteen weeks after training these training effects on performance were substantially maintained. However, adherence to legal requirements that the pharmacist personally deliver the "pharmacist-only" analgesics to consumers was initially high (Baseline and Training Phase) in both Control and Training groups, but decayed over time (Week-14 follow-up). This suggested reactivity to knowledge that assessment was taking place. There were also limitations to this study: The data relied upon pseudo-patient recollection of the interaction with the pharmacist; training did not lead to an increase in referral for medical consultation when it was appropriate; and the rate of warning pseudo-patients about the effects of the medication fell with training on the behavioral intervention.

## METHOD

The aim of the present study was also to change pharmacists' behavior in relation to non-prescription compound analgesics. It took the methodology used in the pilot study a step further: More pharmacies were recruited [30]; a greater number of pseudo-patient visits were conducted [453]; the training period was extended to six weeks; audiotaping was used for greater accuracy of performance feedback; and training not only focused on behavioral techniques, but also stressed medical consultation when appropriate. The study also attempted to measure the impact of the intervention upon consumers. However because consumer response was poor, no meaningful analysis could be undertaken and this will not be reported.

## Subjects

Forty-three pharmacists from 30 pharmacies were conveniently recruited to take part in the study. These pharmacies were randomly allocated to either a Training Group ( $n=15$  pharmacies) or a control group ( $n=15$  pharmacies). Eighteen of the 30 pharmacies were from the Sydney Metropolitan Area and remaining 12 were from regional centers in commuting distance of Sydney (80 - 100 km north). The pharmacies were randomly selected between these two groups (Metropolitan Area and Regional centers). Twenty-three pharmacies were independently owned and seven were linked to pharmacy chains. Eleven of the pharmacies were located in busy shopping centres and considered to be of high volume, with the remaining 19 pharmacies being of lower volume. After randomization the two groups of pharmacies were roughly equivalent on the above variables.

## Intervention

A brief intervention was taught to pharmacists in the training group during a three-hour off-site workshop. The intervention was based on the strategies reported by de Almeida Neto *et al.*(11) In the intervention, pharmacists prompted consumers to talk about their medication use by asking an open-ended question, *e.g.*, "How are you doing with this product?" Closed-ended questions were only asked if consumers failed to provide relevant information after being asked an open-ended question. In case of misuse, the pharmacist delivered an intervention tailored to the individual. The intervention strategies were based on principles of motivational inte

In the study intervention, the pharmacist assesses the consumer's readiness to change by asking how s/he feels about the particular behavior (Figure 1) *e.g.*, How do you feel about talking more than eight tablets a day? The consumer's answer should give the pharmacist an indication of whether or not s/he is ready to change. The appropriate strategy can then be used. If the consumer is not ready to change the pharmacist provides information about the inappropriate use in a nonconfrontational manner in order to raise the consumer's awareness about the behavior. If the consumer is ready to change, the pharmacist provides him/her with practical advice on how to go about changing (Figure 1). The intervention was practiced in role-plays and pharmacists were requested to use it for sales of non-prescription analgesic products containing paracetamol, codeine and doxylamine.

## Procedure

Throughout the study, practice was monitored in all the pharmacies through the use of pseudo-patient visits. Confederates of the researchers went to the pharmacies and

made test purchases of non-prescription products without disclosing their identity. The concept of pseudo-patient visits was presented to pharmacists as an integral part of the training program with the purpose of coaching pharmacists in the process of developing the intervention skills. The methodology was negotiated with the pharmacists prior to study commencement and prior to allocation to either a control or an intervention group. All pharmacists knew they would be visited. Signed consent to collect the data was obtained from all pharmacists in the study. Pharmacists' awareness of pseudo-patron evaluation was an integral component of the training program. This awareness was needed to motivate continued application of the intervention in the field.

There were two assessment phases: During an initial three-week baseline period and for six weeks immediately after workshop training when pharmacists in the training group received performance feedback (Post). The responses of control pharmacists to the pseudo-patients were assessed in the same way as for the training group, but no feedback on performance was given. All interactions with the pharmacists were audiotaped using a small tape recorder concealed by the pseudo-patient.

All pseudo-patients were instructed to play the role of an inappropriate medication user. Three scripts were chosen and rotated throughout the study: (i) dosage above manufacturers' recommendation; (ii) inappropriate indication of medication; and (iii) prolonged use without adequate supervision. The scenarios were based on the findings of previous unpublished research<sup>1</sup>, which identified these scenarios as areas of pharmacist concern(1). The time of the pseudo-patron visit was also randomly rotated throughout the study.

All pseudo-patients were instructed to provide information about medication behavior only if the pharmacist inquired about it. If the pharmacist asked an open-ended question, pseudo-patients were to provide all relevant information about their drug-taking behavior. In the case of close-ended questions, pseudo-patients were to provide only information pertaining to the question. All pseudo-patients were trained prior to visiting the pharmacies, using role-play with provision of feedback. In order to avoid being recognized as a pseudo-patient, confederates visited a particular pharmacy only once during the study.

Immediately following a pseudo-patient visit, a researcher walked into the pharmacy and provided the training group pharmacist with positive feedback, emphasising positive features of the pharmacist's performance. Then the researcher offered corrective feedback or coaching that addressed how the pharmacist could improve performance further. A feedback sheet was designed highlighting essential features of the intervention (clinical assessment, assessment of readiness to change, and use of an appropriate strategy) to facilitate provision of standardised feedback. On this sheet the components of the intervention that a pharmacist performed well were checked and the ones requiring further training were left blank. A carbon copy of the assessment sheet was given to the pharmacist. In pharmacies that had more than one pharmacist feedback was provided to the pharmacist who interacted with the pseudo-patron. At the end of the study all pharmacists in the study pharmacies had been through training and positive reevaluation.

A total of 453 pseudo-patient visits were conducted. Of these, 153 visits were conducted during Baseline (range = 4-6 visits, median = 6) and 300 during the training period (range = 8-13, median = 12). Because of variations in the number of visits across phases of the study, the primary analyses of changes in pharmacist behavior were based on the proportion of visits in each phase when a particular behavior was observed.

The pseudo-patient visits provided observations on 11 measures. The measures which were directly related to the intervention and which therefore were expected to change more strongly in the training group than the controls were as follows: (i) use of open-ended questions; (ii) identification of misuse; (iii) assessment of readiness to change; (iv) Provision of information on misuse; (v) Discussion of alternate medication and; (vi) and suggesting that the patron consult a doctor. Five others were expected to be already within the pharmacists' knowledge and skill repertoire: (i) personal delivery of medication by the pharmacist; (ii) asking if the consumer had used the medication before; (iii) warning about drowsiness; (iv) warning about alcohol interactions; (v) and warning the patron not to drive. These were not expected to change differentially as a result of training, even though the workshop included reminders about some of these elements. Instead, awareness of the pseudo-patient visits over the course of the study was expected to make a temporary impact on pharmacist adherence to these behaviors across both training and control groups.

After training had finished, acceptability of the pseudo-patient procedure was measured by sending to each pharmacist in the training group a survey questionnaire and pre-paid addressed envelope. To minimize bias, the responses were anonymous. A question about the pseudo-patient methodology was embedded in a set of more general questions to conceal the main purpose of the survey. The survey asked for some ratings on how much they liked the overall training, the practicability of the intervention, how much they liked the pseudo-patient training and feedback, and how much they liked the study intervention. Two open-ended questions were also asked: "What did you like about the training?" and "What did you NOT like about the training?"

To determine inter-rater reliability, an independent assessor re-coded 15 percent of pharmacist/pseudo-patron interactions. The investigator who did the coding also re-coded 15 percent of his data to determine intra-rater reliability.

## RESULTS

Of the 30 pharmacies three withdrew from the study during baseline phase. One pharmacy withdrew for health reasons and two pharmacies because of time constraints, leaving the training group with 13 and the control group with 14 pharmacies.

### Assessment of Information Needs

The use of open-ended questions replaced the closed question about past use, and allowed the pharmacist to obtain the same information, but with additional data about the patron's misuse.

Pharmacists in the study generally asked if the consumer had taken the medication before. On average, this question was asked at 59.5 percent of visits at Baseline, across groups. The frequency of this question decreased at Post to an average of 44.2 percent of visits ( $F(1, 25) = 8.95, P < 0.05$ ). This was

<sup>1</sup>Benrimoj, S.I. and Chetcuti, N.L., "Pharmacoepidemiology of Nonprescription Analgesic Products," The University of Sydney, Sydney (1994) unpublished.

**Table I. Proportion of pseudo-patient visits where selected Pharmacist behaviors were displayed over the course of the study**

	Mean (SD)			
	Control group pharmacies		Training group pharmacies	
	Baseline	Post	Baseline	Post
Used an open-ended question	0.03 (0.10)	0.13 (0.17)	0.02 (0.06)	0.68 (0.24)
Correctly identified misuse	0.10 (0.23)	0.17 (0.19)	0.16 (0.26)	0.67 (0.20)
Assessed readiness to change	0.00 (0.00)	0.09 (0.24)	0.01 (0.04)	0.47 (0.26)
Provided information on misuse	0.12 (0.19)	0.13 (0.19)	0.19 (0.16)	0.59 (0.24)
Discussed alternate medication	0.04 (0.18)	0.14 (0.19)	0.12 (0.18)	0.52 (0.23)
Provided practical advice	0.12 (0.21)	0.19 (0.24)	0.13 (0.18)	0.66 (0.23)
Recommended that see a doctor	0.06 (0.12)	0.11 (0.17)	0.04 (0.08)	0.33 (0.19)
Medication delivered by pharmacist	0.81 (0.17)	0.77 (0.18)	0.70 (0.31)	0.88 (0.18)
Discussed				
Drowsiness	0.57 (0.22)	0.49 (0.20)	0.55 (0.27)	0.26 (0.15)
Driving risk	0.18 (0.21)	0.17 (0.18)	0.36 (0.31)	0.15 (0.14)
Alcohol interaction	0.02 (0.06)	0.03 (0.07)	0.15 (0.21)	0.04 (0.14)
Asked about previous use of the medication	0.61 (0.24)	0.59 (0.19)	0.58 (0.26)	0.28 (0.18)

Results are based on 14 control and 13 trained pharmacists.

primarily due to a decrease in the frequency of this question in the training group (Group x Time effect:  $F(1,25) = 7.33$ ,  $P < 0.02$ ). Mean results of pharmacy observations for the training and control groups are displayed in Table I.

As predicted, the use of open-ended questions increased from 0.03 percent at Baseline to 39.5 percent at Post ( $F(1,25) = 113.32$ ,  $P < 0.001$ ). This was mainly due to an increase in the use of open-ended questions by the training group from 0.03 percent at baseline to 68.0 percent at post (Group x Time effect:  $F(1,25) = 63.72$ ,  $P < 0.001$ ).

### Legal Requirement

The most basic expectation of the pharmacists was that they adhered to the legal requirement that they personally deliver the “pharmacist only” analgesic products to the purchaser. As this should be well known to the pharmacist before the study, we predicted that it would be responsive to pharmacists’ awareness that assessment would occur at unpredictable intervals during the study. At Baseline the whole sample delivered the medication personally to an average of 75.7 percent of purchasers. The rate of adherence was 82.1 percent of purchases at Post ( $F(1,25) = 3.64$ , n.s.) and there was an additional effect from training (Group x Time effect:  $F(1,25) = 9.01$ ,  $P < 0.01$ ) with the rate increasing in the Training and decreasing in the control group (Table I).

### Misuse Identification

Across groups, there was significant improvement from Baseline to Post in the proportion of visits on which misuse of medication was identified ( $F(1, 25) = 55.80$ ,  $P < 0.001$ ). As expected, there was an effect of training ( $F(1,25) = 32.97$ ,  $P >$

0.001), which was primarily due to an increase in the rate of misuse identification by the training group from 16.2 percent at baseline to 66.9 percent at Post.

### Readiness to Change

Once misuse was identified, pharmacists assessed the consumer’s readiness to change by asking how s/he felt about the behavior in question. Out of the 67 percent of post visits to the training group in which misuse was identified, readiness to change was assessed 69.1 percent of the time with a significant effect of training ( $F(1,25) = 14.58$ ,  $P < 0.001$ ).

The training and control groups differed in the rate of misuse identification when the pseudo-patient played the role of a consumer who was ready to change, “ready scenarios” (Table II,  $F(1,25) = 21.56$ ,  $P < 0.001$ ). This was due to an increase in the rate of identification from baseline to post ( $F(1, 25) = 26.85$ ,  $P < 0.001$ ) with the training group presenting a greater rise over time ( $F(1, 25) = 14.16$ ,  $P < 0.001$ ).

A similar result was observed with the “not ready scenarios”. The rate of identification of misuse differed between the two groups (Table II,  $F(1, 25) = 8.00$ ,  $P < 0.01$ ) with an increase from baseline to post ( $F(1, 25) = 58.14$ ,  $P < 0.001$ ). Again, a greater rise over time was observed in the training group ( $F(1, 25) = 37.99$ ,  $P < 0.001$ ).

### Intervention for Medication Misuse

Once the pharmacist determined whether or not the consumer was ready to change he/she would then either provide information on misuse of the medication to those who were not ready and practical skills on how to go about changing to those who were ready. Changes in performance were obtained on the

**Table II. Average percentage of visits per type of scenario on which misuse was identified.**

Scenario	Control group pharmacies (n=14)		Training group pharmacies (n = 13)	
	Baseline	Post	Baseline	Post
Ready to change	9.5%	17.0%	20.5%	68.0%
Not ready to change	10.7%	16.3%	10.3%	62.6%

Results are based on a total of 543 visits to pharmacies.

provision of information about the particular medication misuse ( $F(1,25) = 29.96$ ,  $P < 0.001$ ) with an effect of training (Group x Time effect: ( $F(1,25) = 28.04$ ,  $P < 0.001$ ). In 76.2 percent of visits to the training group on which misuse was identified and the pseudo-patient was not ready to change, information on the misuse was provided in 76.2 percent of time. Such information comprised: Warning about the addictive or constipating properties of codeine when taken in excess of label specifications; and/or explaining what the substances in the tablets were for (paracetamol, codeine and doxylamine), especially in case of non-analgesic use of the medication; and/or risks of hepatic side effects.

There was also a significant increase across the whole sample from Baseline to Post in the proportion of visits on which an alternate medication was suggested by the pharmacist ( $F(1,25) = 32.58$ ,  $P < 0.001$ ). The use of an alternate medicine was discussed by the training group on 51.5 percent of visits at Post, compared with 11.8 percent at Baseline (Group x Time effect:  $F(1,25) = 12.94$ ,  $P < 0.001$ ). Out of the visits at Post to training group pharmacists on which the pseudo-patient was ready to change, a more appropriate medication was suggested 65.5 percent of time.

At Baseline only 0.05 percent of the whole sample suggested that the pseudo-patient consult a general practitioner. This rate rose to 21 percent at Post ( $F(1,25) = 28.86$ ,  $P < 0.001$ ). This effect was primarily due to an increase in the rate of suggestion to see a General Practitioner by the training group rather than to changes in controls (Group x Time effect:  $F(1,25) = 15.33$ ,  $P > 0.001$ ). However, practical advice, which encompassed suggesting a medical consultation, suggesting an alternate medication or treatment, was provided on 69.6 percent of visits when the pseudo-patient played the role of a consumer who was ready to change.

### Specific Warnings About Effects of the Medication

A differential change across the groups from baseline to post was observed in the provision of specific warnings about medication effects, *i.e.*, possible interaction with alcohol ( $F(1,25) = 5.25$ ,  $P < 0.05$ ), risk of driving a motor vehicle ( $F(1,25) = 9.22$ ,  $P < 0.01$ ) and about the drowsiness effect ( $F(1,25) = 19.64$ ,  $P < 0.001$ ). These effects were due to a greater decrease in warning by the training group than in controls (Group x Time effect:  $F(1, 25) = 6.25$ ,  $P < 0.02$ ;  $F(1,25) = 7.95$ ,  $P < 0.01$ ;  $F(1,25) = 6.93$ ,  $P < 0.02$ , respectively).

### Inter and Intra-rater Reliability

The  $k$  values for inter-rater reliability exceeded 0.8 for the all the items on the rating scale. The  $k$  values for intra-rater reliability exceeded 0.8 for all items for both coders.

### Acceptability of Pseudo-Patient Procedure

Out of 17 questionnaires sent to pharmacists in the training group 10 were returned to the researchers. Pharmacists were asked to rate on a 11-point likert scale how much they

enjoyed the pseudo-patient and feedback training (0 = not at all and 10 = very much). Ratings had a median of 9 (Range = 3-10 and Mean = 7.7), and nine of the ratings were at 5 or above.

### CONCLUSIONS

In direct contrast to previous pseudo-patient studies, a high proportion of pharmacists accepted the procedure. As the procedure had been negotiated with pharmacists, there was no sense of betrayal. Instead, participants recognized they would also profit from the procedure by further developing their professional skills.

The results were consistent with the hypothesis that when a workshop is combined with on-site performance feedback, it enhances in the natural setting practitioners' adherence to protocols. Trained pharmacists showed significant improvement on all components of the protocol.

Consistent with the previous study, there was a decrease in the rate of provision of clinical information about the analgesic product, *i.e.*, interaction with alcohol, drowsiness and the risk of driving. This may be because of limits on the time that a pharmacist spends with a patient. There may need to be a prioritizing of what is needed at the moment of analgesic purchase. Another possibility is that trained pharmacists were correctly identifying patients who needed information on adverse effects, and only gave such information to those consumers. However, a further possibility is that, in focusing on the need to change dysfunctional use, pharmacists neglected important clinical information.

Contrary to prediction, the results did show an effect of training on the legal requirement that pharmacists personally deliver the "pharmacist only" analgesic product. For ethical reasons there could be no true baseline measure of personal provision of the medication when the pharmacists were unaware of the assessment. The differential effect across groups was best explained by an initial inflation of performance that was related to awareness that they were being assessed and a subsequent decline in the control group due to habituation to the assessment. The same habituation did not occur in the training group because the feedback maintained a sensitisation to assessment. The results for personal delivery of the medication were in contrast to the previous study, which had shown a sustained increase. It could have been the case that in the previous study a third assessment phase at an unpredictable time period sustained sensitisation to assessment for a longer period of time. Additional research is needed to establish whether this explanation is accurate.

The results did show an effect of training on referrals to medical practitioners. The area of analgesic misuse is an inter-professional one, requiring collaboration between community pharmacists and general practitioners. Greater involvement of pharmacists in the health care chain may lead to an improvement in health outcomes.

Questions about the long-term sustenance of this behavior are still to be answered. However previous research conduct-

ed by the authors found that 14 weeks after training its effects were still detectable(10). This indicates that continuous application of the intervention skills may lead to their incorporation into practice behavior. However, it should be pointed out that all observations may have been inflated by the fact that all pharmacists in the study were self-selected. It also remains to be seen whether or not a change in behavior would be observed when using a random sample of pharmacists instead of a self-selected sample. Only then would one be comfortable in generalizing the conclusions of this study to pharmacists as a whole.

**Acknowledgments.** This study was supported by a grant from Hoechst Marion Roussel Australia Pty Ltd. We are grateful to all the community pharmacists who took part in this study and to Dr Romano Fois for his assistance.

#### References

- (1) Roethlisberger, F.G. and Dickson, W.J., *Management and the Worker*, Harvard University Press, Cambridge MA (1939).
- (2) Pick, S., Reyes, J., Alvarez, M., Cohen, S. and Craig, J., "AIDS prevention training for pharmacy workers in Mexico City," *AIDS Care*, **8**, 55-69 (1996).
- (3) Krska, J., Greenwood, R. and Howitt, E.P., "Audit of advice in response to symptoms," *Pharm. J.*, **252**, 93-96.
- (4) Bandura, A., *Social Foundations of Thought and Action: A Social Cognitive Theory*, Prentice-Hall, Englewood Cliffs NJ (1986).
- (5) Copeman, R.C., Swannell, R.J., Pincus, D.F. and Woodhead, K.A., "Utilization of the 'Smokescreen' smoking-cessation programme by general practitioners and their patients," *Med. J. Aust.*, **151**, 83-87(1989).
- (6) Ward, J. and Sanson-Fisher, R., "Does a 3-day workshop for family medicine trainees improve preventive care?" A randomized control trial," *Prev. Med.*, **25**, 741-747(1996).
- (7) Kavanagh, D.J., Piatkowska, O., Clark, D., O'Halloran, P., Manicavasagar, V. and Rosen, A., "Application of a cognitive-behavioural family intervention for schizophrenia in multi-disciplinary settings: What can the matter be?" *Aust. Psychol*, **28**, 181-188(1993).
- (8) Kavanagh, D.J., "Issues in multidisciplinary training of cognitive-behavioural interventions," *Behav. Change*, **11**, 38-44 (1994).
- (9) de Almeida Neto, A.C., "Training Community Pharmacists in Cognitive-Behavioural Intervention Strategies," PhD thesis. The University of Sydney, Sydney NSW (2000), p. 85.
- (10) de Almeida Neto, A.C., Benrimoj, S.I., Kavanagh, D. and Boakes, R.A., "A pharmacy-based protocol and training program for non-prescription analgesics," *J. Soc. Adm. Pharm.*, in press (2000).
- (11) de Almeida Neto, A.C., Benrimoj, S.I., Gomel, M. and Fois, R., "Inappropriate Self-Medication Practices: A Pharmacy-Based Intervention," *ibid.*, **13**, 131-138(1996).